

Application No. 09/647,946  
Amdt. dated February 10, 2005  
Reply to Office Action of August 13, 2004

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Amendments to the Claims:

1. to 15. (Cancelled)

16. (Currently amended) A method of immunizing a host against disease caused by infection with a strain of *Chlamydia*, which comprises administering to said host an effective amount of a non-replicating vector comprising:

a nucleotide sequence encoding a region consisting of a region comprising at least one of the conserved domains 2, 3 and 5 of a major outer membrane protein (MOMP) of a strain of *Chlamydia* and ~~that generates a MOMP-specific immune response~~, and

a promoter sequence operatively coupled to said nucleotide sequence for expression of said at least one conserved domain ~~said MOMP~~ in the host.

17. (Original) The method of claim 16 wherein said promoter sequence is the cytomegalovirus promoter.

18. (Original) The method of claim 16 wherein said strain of *Chlamydia* is a strain producing chlamydial infections of the lung.

19. (Original) The method of claim 16 wherein said strain of *Chlamydia* is a strain of *Chlamydia trachomatis*.

20. (Original) The method of claim 16 wherein said non-replicating vector comprises plasmid pcDNA3 containing said promoter into which said nucleotide sequence is inserted in operative relation to said promoter sequence.

21. (Original) The method of claim 16 wherein said immune response is predominantly a cellular immune response.

22. (Original) The method of claim 16 wherein said non-replicating vector is administered intranasally.

23. (Original) The method of claim 16 wherein said host is a human host.

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24. (Currently amended) A method of using a nucleotide sequence encoding a fragment of a major outer membrane protein (MOMP) of a strain of *Chlamydia* that generates a MOMP-specific immune response, to produce an immune response in a host, which comprises:

isolating said nucleotide sequence encoding a region consisting of ~~comprising~~ at least one of the conserved domains 2, 3 and 5 of a major outer membrane protein of a strain of *Chlamydia*,

operatively linking said nucleotide sequence to at least one control sequence to produce a non-replicating vector, said control sequence directing expression of said MOMP fragment when introduced into a host to produce an immune response to said MOMP fragment, and

introducing said vector into a host.

25. (Currently Amended) ~~The method of~~ A method of using a nucleotide sequence encoding a fragment of a major outer membrane protein (MOMP) of a strain of *Chlamydia* that generates a MOMP-specific immune response, to produce an immune response in a host, which comprises:

~~isolating a claim 24 wherein said nucleotide sequence encoding a region consisting of at least one of the conserved domains 2 and 3 of the MOMP of a strain of *Chlamydia* and domain 2 and/or 3 further consisting of~~ includes a nucleotide sequence encoding a variable domain of the major outer membrane protein immediately downstream of said conserved domain, domain-

operatively linking said nucleotide sequence to at least one control sequence to produce a non-replicating vector, said control sequence directing expression of said MOMP fragment when introduced into a host to produce an immune response to said MOMP fragment, and

introducing said vector into a host.

26. (Original) The method of claim 24 wherein said nucleotide sequence encodes the conserved domain 5 of a major outer membrane protein of a strain of *Chlamydia*.

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27. (Original) The method of claim 24 wherein said control sequence is the cytomegalovirus promoter.

28. (Original) The method of claim 24 wherein said strain of *Chlamydia* is a strain producing chlamydial infections of the lung.

29. (Original) The method of claim 24 wherein said strain of *Chlamydia* is a strain of *Chlamydia trachomatis*.

30. (Original) The method of claim 24 wherein said non-replicating vector comprises plasmid pcDNA3 containing said control sequence into which said gene encoding MOMP is inserted in operative relation to said control sequence.

31. (Original) The method of claim 24 wherein said immune response is predominantly a cellular immune response.

32. (Original) The method of claim 24 wherein said vector is introduced into said host intranasally.

33. (Original) The method of claim 24 wherein said host is a human host.

34. (Cancelled)

35. (Cancelled)

36. (New) A method of immunizing a host against disease caused by infection with a strain of *Chlamydia*, which comprises administering to said host an effective amount of a non-replicating vector comprising:

a nucleotide sequence encoding a region consisting of at least one of the conserved domains 2 and 3 of a major outer membrane protein (MOMP) of a strain of *Chlamydia* and further consisting of a nucleotide sequence encoding a variable domain of the major outer membrane protein immediately downstream of said conserved domain, and

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a promoter sequence operatively coupled to said nucleotide sequence for expression of said at least one conserved domain and variable domain in the host.

37. (New) The method of claim 36 wherein said promoter sequence is the cytomegalovirus promoter.

38. (New) The method of claim 36 wherein said strain of *Chlamydia* is a strain producing chlamydial infections of the lung.

39. (New) The method of claims 36 wherein said strain of *Chlamydia* is a strain of *Chlamydia trachomatis*.

40. (New) The method of claim 36 wherein said non-replicating vector comprises plasmid pcDNA3 containing said promoter into which said nucleotide sequence is inserted in operative relation to said promoter sequence.

41. (New) The method of claim 36 wherein said immune response is predominantly a cellular immune response.

42. (New) The method of claims 36 wherein said non-replicating vector is administered intranasally.